

Application No.: 10/076,172

2

Docket No.: 306812002000

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

In the claims:

Claim 1 (Currently Amended): A clock network for an integrated circuit comprising:

a first set of lines configured to ~~distributes~~ distribute clock signals to a first section of the integrated circuit;

a second set of lines configured to distribute clock signals to a second section of the integrated circuit separately from the first section of the integrated circuit; and

a third set of lines configured to distribute clock signals to both the first and second sections of the integrated circuit, wherein the third set of lines connects with the first set of lines in the first section of the integrated circuit, and wherein the third set of lines connects with the second set of lines in the second section of the integrated circuit;

at least one line disposed in the first section connected directly to an input/output (I/O) of the integrated circuit, wherein the at least one line is configured to distribute a clock signal received from the I/O to the first section; and

at least one line disposed in the second section connected directly to an I/O of the integrated circuit, wherein the at least one line is configured to distribute a clock signal received from the I/O to the second section.

Claim 2 (Currently Amended): The clock network of claim 1 ~~further comprising, wherein:~~

the at least one line disposed in the first section that connects is connected to the first and third sets of lines; and

sf-1893426

Application No.: 10/076,172

3

Docket No.: 306812002000

the at least one line disposed in the second section ~~that connects~~ is connected to the second and third sets of lines.

Claim 3 (Original): The clock network of claim 2, wherein the first and third sets of lines converge at the center of the first section, and wherein the second and third sets of lines converge at the center of the second section.

Claim 4 (Canceled).

Claim 5 (Original): The clock network of claim 3, wherein the integrated circuit includes a plurality of logic resources, wherein the at least one line in the first section connects to the plurality of logic resources in the first section, and wherein the at least one line in the second section connects to the plurality of logic resources in the second section.

Claim 6 (Original): The clock network of claim 1, wherein the integrated circuit includes a plurality of logic resources, and wherein the third set of lines is configured to receive an input-clock signal from at least one logic resource.

Claim 7 (Original): The clock network of claim 6, wherein the third set of lines is connected to a sneak path from the at least one logic resource.

Claim 8 (Original): The clock network of claim 6, wherein the third set of lines is configured to receive an input-clock signal from a dedicated input-clock pin.

Claim 9 (Original): The clock network of claim 8 further comprising:

sf-1893426

Application No.: 10/076,172

4

Docket No.: 306812002000

at least one differential buffer connected to the dedicated input-clock pin;
at least one phase-lock loop connected to the differential buffer;
a phase-lock loop output multiplexing block connected to the phase-lock loop; and
at least one multiplexer having:
a first input connected directly to the dedicated input-clock pin,
a second input connected directly to the output of the differential buffer,
a third input connected to the output of the phase-lock loop output multiplexing block, and
a fourth input connected to a sneak path from the at least one logic resource.

Claim 10 (Currently Amended): A clock network for a programmable logic device (PLD), wherein the PLD includes a first set of logic resources and at least a second set of logic resources, the clock network comprising:

a first set of clock lines configured to distribute clock signals to the first set of logic resources separately from the second set of logic resources; and

a second set of clock lines configured to distribute clock signals to the second set of logic resources separately from the first set of logic resources;

a third set of clock lines configured to distribute clock signals to both the first and second sets of logic resources, wherein the third set of clock lines connects with the first set of clock lines, and wherein the third set of clock lines connects with the second set of clock lines;

at least one clock line connected directly to an input/output (I/O) of the PLD and configured to receive an input-clock signal and distribute the input-clock signal to the first set of logic resources; and

sf-1893426

Application No.: 10/076,172

5

Docket No.: 306812002000

at least one clock line connected directly to an I/O of the PLD and configured to receive an input-clock signal and distribute the input-clock signal to the second set of logic resources.

Claim 11 (Canceled).

Claim 12 (Currently Amended): The clock network of claim ~~11~~ 10, wherein the third set of clock lines receives an input-clock signal from a sneak path of at least one logic resource.

Claim 13 (Original): The clock network of claim 12, wherein the third set of clock lines receives an input-clock signal from a dedicated input-clock pin.

Claim 14 (Original): The clock network of claim 13, wherein the third set of clock lines is connected to at least one multiplexer having at least one input connected to the dedicated input-clock pin and at least one input connected to the sneak path of a logic resource.

Claim 15 (Currently Amended): The clock network of claim ~~11~~ 10 further comprising:
a first central line that connects to the first and third sets of clock lines and to each logic resource in the first set of logic resources; and

a second central line that connects to the second and third sets of clock lines and to each logic resource in the second set of logic resources.

Claim 16 (Currently Amended): The clock network of claim 15, where the first and second central lines receive input-clock signals from input pins of the ~~integrated circuit~~ PLD that are not dedicated as input-clock pins.

sf-1893426

Application No.: 10/076,172

6

Docket No.: 306812002000

Claim 17 (Currently Amended): A method for distributing clock signals within an integrated circuit using a clock network comprising:

distributing clock signals to a first section of the integrated circuit using a first set of lines of the clock network;-and

distributing clock signals to a second section of the integrated circuit separately from the first section using a second set of lines of the clock network;

distributing clock signals to both the first and second sections of the integrated circuit through a third set of lines of the clock network, wherein the third set of lines connects with the first set of lines in the first section of the integrated circuit, and wherein the third set of lines connects with the second set of lines in the second section of the integrated circuit;

distributing a clock signal to the first section through at least one line disposed in the first section connected directly to an input-out (I/O) of the integrated circuit; and

distributing a clock signal to the second section through at least one line disposed in the second section connected directly to the I/O of the integrated circuit.

Claim 18 (Canceled).

Claim 19 (Original): The method of claim 17 further comprising:
receiving input-clock signals from a logic resource on the integrated circuit.

Claim 20 (Original): The method of claim 17 further comprising:
receiving input-clock signals from input pins on the integrated circuit that are not dedicated as input-clock pins.

sf-1893426